



ANIMAL GENETICS

ANS 310.01W

Summer I 2023

Online

INSTRUCTOR INFORMATION

Instructor: **Dr. Douglas Eborn**

Office Location: **AG/ET 233D**

Office Hours: **MWR 12:00-2:00**

Office Phone: **903.886.5676**

Office Fax: 903.886.5990

University Email Address: **Douglas.Eborn@tamuc.edu**

Preferred Form of Communication: **Email**

Communication Response Time: **24 hours**

COURSE INFORMATION

Materials – Textbooks, Readings, Supplementary Readings

Textbook(s) Required: **None. All required material will be provided in class**

Both lecture notes and recorded lectures will be provided.

Prerequisites: ANS 1319 Introduction to Animal Science or
 BSC 1407: Introductory Biology II **AND**
 CHEM 1311 General and Quantitative Chemistry I

An introduction to molecular genetics including Mendelian and population genetics, replication, transcription, and translation. Gene expression and regulation. Use of current genomic methodologies including genotyping and transgenics in animal agriculture.

The syllabus/schedule are subject to change.

Course Description

Student Learning Outcomes

1. Explain and define genetics terms and concepts presented in lecture.
2. Describe chromosomal structure and the biochemical structure of DNA and RNA
3. Describe and explain the processes of replication, transcription, and translation.
4. Explain in writing the stages of mitosis and meiosis and contrast differences in each
5. Describe Mendelian inheritance, the components of the genetic model, and difference between qualitative and quantitative traits.
6. Calculate population gene and genotypic frequencies.
7. Explain the significance of dominance and the difference between complete, incomplete, codominance and epistasis.
8. List the types of gene mutations and explain advantages and disadvantages of gene mutations
9. Describe the different genetic markers including microsatellite, single-nucleotide polymorphisms and their role in livestock production.
10. Describe how animals are genetically modified and their uses today in livestock production.
11. Explain the lab assays and procedures used in genetics including PCR, sequencing, microarrays, whole-genome sequencing

COURSE REQUIREMENTS

Minimal Technical Skills Needed

Students will need to be able to access and use the course online platform for the University, D2L. They may also need to have access and be able to use programs within Microsoft Office including Microsoft Word, Excel, and PowerPoint. As a student you have access to Office 365.

<https://inside.tamuc.edu/facultystaffservices/academictechnology/documents/Office-365-Students.pdf>

Instructional Methods

Lecture Material will be provided using the following formats:

- Handouts of the lecture notes will be provided in PDF format.
- Audio or video recordings for each lecture will be posted online

The syllabus/schedule are subject to change.

- **Note:** the lecture note handouts are only meant to supplement the recorded lectures. There will be material covered in the recorded lectures that isn't necessarily covered in the lecture notes. So you must watch the recorded lectures.

Student Responsibilities or Tips for Success in the Course

Students should have the lecture notes available in either printed or electronic forms that can be used to make additional notes when using the recordings.

Students are expected to have learned the material from the previous lecture. That means that students should review and study new material between class periods and be comfortable with all the previous material before the next class period.

GRADING

Final grades in this course will be based on the following scale:

A = 90%-100%

B = 80%-89%

C = 70%-79%

D = 60%-69%

F = 59% or Below

Assessments

1. EXAMS

- Three online exams will be given through the course. The last exam may be a comprehensive final.
- It is anticipated that the exam will be open for 2-3 days once it is posted.

Tentative Dates:

- 1) Wednesday June 14th
- 2) Monday June 26th
- 3) Wednesday July 5th

2. QUIZZES

- 6 quizzes will be available every Monday and Wednesday of the semester except when there is an exam.

3. HOMEWORK

The syllabus/schedule are subject to change.

- Homework will also be given throughout the semester

4. MAKE-UP WORK

- All students are to take the exams at the time they are scheduled unless you have a great excuse or made prior arrangements with the instructor. If an exam is given at a different time, an alternative makeup exam may be more difficult, not easier, for the student.
- The student must take responsibility to notify the instructor in a timely matter for consideration and accommodation due to emergencies or other circumstances. Validation may be required.
- Late work may be completed or turned in for 3 days after which it will no longer be accepted. 15% will be deducted for each day that it is late.

TECHNOLOGY REQUIREMENTS

LMS

All course sections offered by Texas A&M University-Commerce have a corresponding course shell in the myLeo Online Learning Management System (LMS). Below are technical requirements

LMS Requirements:

<https://community.brightspace.com/s/article/Brightspace-Platform-Requirements>

LMS Browser Support:

https://documentation.brightspace.com/EN/brightspace/requirements/all/browser_support.htm

Zoom Video Conferencing Tool

https://inside.tamuc.edu/campuslife/CampusServices/CITESupportCenter/Zoom_Account.aspx?source=universalmenu

ACCESS AND NAVIGATION

You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or helpdesk@tamuc.edu.

Note: Personal computer and internet connection problems do not excuse the requirement to complete all course work in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These

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methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's home, the local library, office service companies, Starbucks, a TAMUC campus open computer lab, etc.

COMMUNICATION AND SUPPORT

If you have any questions or are having difficulties with the course material, please contact your Instructor.

Technical Support

If you are having technical difficulty with any part of Brightspace, please contact Brightspace Technical Support at 1-877-325-7778. Other support options can be found here:

<https://community.brightspace.com/support/s/contactsupport>

COURSE SPECIFIC PROCEDURES/POLICIES

Course Specific Procedures/Policies

Syllabus Change Policy

The syllabus is a guide. Circumstances and events, such as student progress, may make it necessary for the instructor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in advance.

University Specific Procedures

Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail in the [Student Guidebook](http://www.tamuc.edu/Admissions/oneStopShop/undergraduateAdmissions/studentGuidebook.aspx).
<http://www.tamuc.edu/Admissions/oneStopShop/undergraduateAdmissions/studentGuidebook.aspx>

Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum:

<https://www.britannica.com/topic/netiquette>

TAMUC Attendance

For more information about the attendance policy please visit the [Attendance](#) webpage and [Procedure 13.99.99.R0.01](#).

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<http://www.tamuc.edu/admissions/registrar/generalInformation/attendance.aspx>

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/academic/13.99.99.R0.01.pdf>

Academic Integrity

Students at Texas A&M University-Commerce are expected to maintain high standards of integrity and honesty in all of their scholastic work. For more details and the definition of academic dishonesty see the following procedures:

[Undergraduate Academic Dishonesty 13.99.99.R0.03](#)
[Undergraduate Student Academic Dishonesty Form](#)

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/documents/13.99.99.R0.03UndergraduateStudentAcademicDishonestyForm.pdf>

[Graduate Student Academic Dishonesty Form](#)

<http://www.tamuc.edu/academics/graduateschool/faculty/GraduateStudentAcademicDishonestyFormold.pdf>

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/undergraduates/13.99.99.R0.03UndergraduateAcademicDishonesty.pdf>

Students with Disabilities-- ADA Statement

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services

Texas A&M University-Commerce

Velma K. Waters Library Rm 162

Phone (903) 886-5150 or (903) 886-5835

Fax (903) 468-8148

Email: studentdisabilityservices@tamuc.edu

Website: [Office of Student Disability Resources and Services](#)

<http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/>

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Nondiscrimination Notice

Texas A&M University-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

Campus Concealed Carry Statement

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in Texas A&M University-Commerce buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and A&M-Commerce Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations.

For a list of locations, please refer to the [Carrying Concealed Handguns On Campus](#) document and/or consult your event organizer.

Web url:

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf>

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all A&M-Commerce campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.

A&M-Commerce Supports Students' Mental Health

The Counseling Center at A&M-Commerce, located in the Halladay Building, Room 203, offers counseling services, educational programming, and connection to community resources for students. Students have 24/7 access to the Counseling Center's crisis assessment services by calling 903-886-5145. For more information regarding Counseling Center events and confidential services, please visit www.tamuc.edu/counsel

COURSE OUTLINE / CALENDAR

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